Area fishermen feel that weather conditions and pollution from a pulp mill in Virginia which discharges into Chowan River just upstream from the North Carolina/Virginia border together reduced fish landings from 1986 to 1990 and that adequate fish stocks were available but were not entering the nets due to those conditions (Winslow 1989). Examination of catch effort data (Winslow 1989; Winslow et al. 1985; Winslow et al. 1983; Johnson et al. 1981) indicates that pound net effort in the Chowan River during 1987, 1988, and 1989 was among the highest on record while catches and catch-per-unit-effort were the lowest on record. It has been suggested that water quality problems in spawning and nursery areas have inhibited stock recovery. Blue-green algae blooms during late spring may also affect early juveniles by releasing toxins into the water column (Winslow et al. 1985).

C. 2. American Shad

During the early 1900s, American shad was the most commercially important species in North Carolina. Landings declined from more than 8 million pounds in 1896 and 1897 to the 1-million-pound range and below in the 1930s. The lowest landings on record occurred during the mid-1970s. Some improvements occurred during the early 1980s, but landings have declined again since then (Winslow 1989). American shad, anadromous fish, enter coastal streams in the spring to spawn. Shad stocks all along the Atlantic Coast have been affected by loss of spawning areas due to construction of dams on coastal rivers, industrial and municipal pollution of rivers, and over-fishing of some stocks. Changed consumer habits have resulted in reduced market demand for shad,although seasonal demand remains high in some areas. Intensively managed shad stocks in New England are increasing with habitat improvement, stocking, fishway construction, and regulation of the fisheries. Such management has not been attempted in North Carolina. The major commercial fisheries for American shad is the gill net fishery in Albemarle Sound. Gill net fisheries are also present in Pamlico Sound, Neuse River, and Pamlico River, but have declined in the last ten years. The principal angling areas of the Albemarle-Pamlico region are the Neuse River, Tar River, and Chowan River. Recreational fishermen also use drift gill nets in the Neuse and Tar Rivers. The DMF has conducted extensive research on American shad since the early 1970s but has been unable to determine causes of apparent population declines.

C. 3. Bluefish

Bluefish are very important to both sport and commercial fishermen. Long haul seines, pound nets, and gill nets account for most of the commercial catch in the estuarine system. Most of the total catch comes from the near-shore ocean by trawls and gill nets. Recreational harvest of bluefish usually exceeds commercial harvest. Bluefish are one of North Carolina's most popular recreationally caught fish, ranking among the top three in numbers caught, and consistently ranking number one in total pounds landed. Most recreational catches are taken by trolling and surf casting. A stock assessment program sampling bluefish has been in place in North Carolina since 1981. Abundance was high all along the Atlantic coast from the mid-1970s through the mid-1980s, making bluefish one of the few species consistently available to all fishermen.

Bluefish have been found to carry varying amounts of contaminants. Recent data from NMFS indicate that the total recreational catch along the Atlantic coast has fallen dramatically (from roughly 80 million pounds to roughly 40 million pounds) from 1986 to 1989 (NMFS 1987, 1988, 1989). A coastwide fisheries management plan for bluefish has been prepared (Mid-Atlantic Fishery Management Council 1989) and was implemented early in 1990, particularly restricting recreational catches. Some large bluefish from various Atlantic coastal sites, including North Carolina, contained PCB concentrations exceeding the federal action level of 2 parts per million, however, a recent federal study of PCB's indicates that there is no general hazard to the public.